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ABSTRACT

This study tests the hypothesis that individual differences in locus of control orientation may mediate elementary school students' responses to positive verbal feedback. A total of 30 kindergarten through fourth grade subjects were assessed for locus of control orientation using the Bialer Children's Locus of Control Questionnaire. To establish a baseline measure of initial intrinsic interest, the students were randomly ordered and individually observed during a 10 minute free-choice session in which they were free to engage in various cognitive learning activities. Verbal praise treatment subjects then spent two 30 minute sessions working on a target activity. Children were asked to write down and/or draw pictures of everything that they did. During these work periods subjects individually received positive verbal feedback statements. Subsequently, a post-test session identical to the free-choice pre-test was conducted. Time spent at the target activity during the post-test was the dependent variable. Verbal praise acted to increase intrinsic motivation for subjects higher on internal locus of control. For individuals lower in locus of control verbal praise appeared to decrease motivation. For individuals with an external locus of control orientation, it appears that verbal praise given in support of individual performance on intrinsically motivated tasks may actually reduce intrinsic motivation when that praise is no longer forthcoming. (Author/RH)

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Cognitive Evaluation Theory, Locus of Control and Positive Verbal Feedback

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Running head: Cognitive Evaluation Theory, Locus of Control and Positive Verbal Feedback

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Abstract

Deci's (1975, 1980) cognitive evalutation theory predicts increases in intrinsic motivation after receipt of positive feedback. A review of the literature uncovers differential effects of verbal praise, rewards, and positive feedback for child and adult subjects. In this study it was hypothesized that individual differences in locus of control orientation may mediate response to positive verbal feedback. K-4th grade subjects were assessed for locus of control orientation using the Blaier Children's Locus of Control Questionnaire (1961). Results indicated that for subjects high on internal locus of control verbal praise acted to increase intrinsic motivation, while for individuals low on internal locus of control, verbal praise appeared to act like an extrinsic reward, decreasing intrinsic motivation.

Cognitive Evaluation Theory, Locus of Control and Positive Verbal Feedback

Deci's (1975, 1980) cognitive evaluation theory is an attempt to provide a logical and consistent framework from which to examine intrinsic motivational processes. Deci (1980) has suggested that intrinsic motivation will be affected if there is a change in one's perception or feelings of competence, with increases in such perceptions or feelings resulting in an increase in intrinsic motivation. Specifically, receipt of positive feedback for engaging in intrinsically motivated activity should increase the intrinsic motivation for that activity.

Research to date investigating the effects of positive feedback (defined variously as verbal rewards, praise, and/or positive feedback) on intrinsic motivation has produced inconsistent findings. Studies employing children as subjects have reported increases in intrinsic motivation after receipt of positive feedback (Anderson et.al., 1976; Martin, 1977), increases for some children and not for others (Boggiano & Ruble, 1979; Lonky, 1975), and no differences in levels of intrinsic motivation between children receiving praise and those receiving no rewards (Dollinger & Thelen, 1978). Similarly, with adult subjects results have indicated differential effects of positive feedback on intrinsic motivation for males and females (Carone, 1975; Deci, 1972; Deci, Cascio, & Krusell, 1975), decreases in intrinsic motivation as a function of receiving positive verbal feedback (Smith, 1974), and increases in intrinsic motivation as a function of receipt of positive feedback (Arnold, 1976; Deci, 1971; Haracklewicz, 1979).

It has been suggested (Deci, 1980; Lonky, 1975) that for some individuals verbal rewards in the form of positive verbal feedback or praise increases feelings of competence and hence intrinsic motivation, while for others it acts more like an extrinsic reward, resulting in a decrease in intrinsic motivation. More specifically, the relative salience of the informational or controlling aspect of verbal rewards it is suggested, is a crucial variable. Verbal rewards which provide information about one's competence will increase intrinsic motivation, whereas verbal rewards administered to control behavior will decrease intrinsic motivation. The research cited above has for the most part failed to control for the relative salience of the informational and controlling aspects of positive feedback. Taking note of this, Deci (1980) has attempted to account for the somewhat confusing findings by looking to factors in the experimental manipulations which might point out whether it was the informational or controlling aspect of verbal rewards which were most salient.

On the other hand, it is suggested here, that there might be factors in the individual which may account for the relative salience of informational or controlling aspects of verbal rewards. In this study, it is hypothesized that individual differences in locus of control orientation may mediate in individuals' responses to positive verbal feedback. This is to say that internally and externally controlled subjects may be differentially sensitive to the informational and controlling aspects of verbal rewards.

Locus of control and cognitive evaluation theory

Deci's cognitive evaluation theory makes explicit use of Heider's (1958) concept of locus of causality. In part the effects of the intrinsic rewards

on intrinsic motivation are explained by positing a corresponding change in the perceived locus of causality from internal to external. A related concept, and one which is being suggested as an individual difference variable which might mediate the effects of rewards on intrinsic motivation is locus of control (Rotter, 1954, 1966).

The concept of locus of control refers to the degree to which individuals feel they have control over the rewards and reinforcements that occur in relation to their own behaviors. A continuum of individual differences ranging from an internal to an external orientation is felt to best describe the dimension. Internals tend to perceive rewards and reinforcements as being contingent on their own behaviors. They perceive that they control their own destiny, and that their acts are the ones which affect their environment and determine the incidences of reinforcement. Externals view these rewards as determined by forces beyond their control such as luck, fate, or powerful others. Rewards and reinforcements bear no particular relationship to one's behavior for those individuals high on external locus of control. Rotter's concept does bear some relationship to an individual's believing himself to be competent and self-determining, that he can be effective in influencing his environment (key determinants of intrinsic motivation according to Deci).

Deci (1975) has expanded on this relationship between locus of control and the interaction of intrinsic and extrinsic motivation. Intrinsically motivated behaviors are characterized by internal causality (in Heider's use of the term). The cause of the behavior according to Deci is the intention of getting internal rewards from the activity i.e. feelings of competence and self-determination. Extrinsically motivated behaviors are characterized

by external causality. The behavior is caused by the intention (instrumental as it may be) to get the reward. Both are instances of personal causation. Events or behaviors which are caused by "fate" or "luck", or by environmental circumstances, i.e. powerful others, are instances of impersonal causation.

Internal locus of control invovles intention (personal causality), but can be either internal or external causality. Someone who is an internal control may be motivated either intrinsically or extrinsically. The locus of causality may be either internal or external for someone who is high on internal locus of control. External locus of control implies impersonal causality. Individuals high on external locus of control tend not to be motivated for either intrinsic or extrinsic rewards. Externals do not believe that their behaviors have any relationship to the rewards they receive.

Based on this analysis, Deci views Rotter's concept of internal locus of control as being a necessary but not sufficient condition for intrinsic motivation. An internal person would tend to be intrinsically motivated in many situations. An external person would rarely be intrinsically motivated. He believes that his behaviors do not affect his environment, and would seldom engage in behaviors to feel competent and self-determining.

Deci's hypothesis complicates any notion we might have of using the locus of control dimension in a way that would aid in predicting individual intrinsic motivation responses to various extrinsic rewards. It is not a simple case of predicting that internals will spend more time on a task when there is no reward, and externals, when there is a reward. Internals are motivated both intrinsically and extrinsically, and in fact might be predicted to spend more free-choice time on tasks in both no reward and extrinsic reward conditions.

With respect to positive verbal feedback, there is a logical rationale consistent with Deci's theorization which suggests that locus of control may be able to help sort out reported differential response patterns to positive verbal feedback. Internals according to Deci tend to be significantly more intrinsically motivated than externals. This is to say they would be sensitive to and tend to react to the informational aspect of positive verbal feedback. Concurrently, they would be expected to experience an increase in feelings of competence and self-determination and reveal an increase in their intrinsic motivation for the activity. Externals would tend not to perceive the connection between the praise statement "that's good work" and anything they had personally caused to happen. The information regarding their competence would not be associated with their own actions. This corollary to Deci's formulation is supported by Rotter's idea of external control being a defensive response to failure. Being used to failure, the receipt of verbal praise can be easily reinterpreted as "just being lucky", or the task being "so easy that anyone could have done it". Further, there are several studies (Baron & Ganz, 1972; Baron, Cowan, Garez, & McDonald, 1974) which imply that externally oriented children are more sensitive to the controlling aspect of verbal reinforcement.

Note that in the verbal praise condition, I am speaking of a specific sensitivity to the informational aspect of the verbal reward effecting a change in the competence and self-determination process. With respect to extrinsic reward and no reward conditions in research studies, the fact that internals can be both intrinsically and extrinsically motivated confounds our attempts at distinguishing the interaction effect along the internal-

external control dimension. In this regard, deCharms (1976) origin-pawn dimension would probably be the better individual difference measure to use.

This study reports results on the verbal praise and locus of control portion of a larger study which examined the overall effects of extrinsic rewards and praise on varying levels of intrinsic motivation. Companion findings, and a detailed description of the prodedure employed can be found in Lonky (1978), and Lonky, Danner, & Serlin, (1979).

Method

A total of 30 K-4th grade students (age range 4yrs. 5mos. - 10yrs. 6mos.) constituted the verbal praise treatment condition of the larger study mentioned above. A grand total of 90 subjects had been randomly assigned to verbal praise, reward, and no reward treatment conditions. Locus of control orientation was assessed using the Blaier Children's Locus of Control Questionnaire (BLC), (1961). The BLC yields scores ranging from 0-23, with higher scores indicating higher internality.

Prior to assignment to treatment conditions the children were randomly ordered and individually observed during a 10 minute free-choice session in which they were free to engage in various cognitive learning activities. This session provided a baseline measure of initial intrinsic interest in our target activity. As our disequilibration model hypothesized (Lonky, 1975, 1978; Lonky, Danner & Serlin, 1979) developmental level mediated the degree to which our target activity was found to be intrinsically motivating.

After pre-test baseline assessment, verbal praise treatment subjects spent two 30 minute sessions working on our target activity. All children were asked to write down and/or draw pictures of everything that they did

during the sessions. It was during these work periods that subjects individually received positive verbal feedback statements such as, "That's the best work you've done so far", "Very fine work", etc. The experimenter used two hand held counters to insure that each subject received the same number of individual positive verbal feedback statements. After completing the activities, each child was told that not very many other children of their age had done as well. Following the second 30 minute work session, an individual 10 minute post-test session identical to the free-choice pre-test was conducted. Time spent at the target activity during this post-test was our dependent variable.

Summary of Results

Table 1 presents the mean times spent by verbal praise subjects in target activity at pre and post-test. Times are presented for Hi and Lo locus of control subjects. Target activity scores for verbal praise subjects

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Table 1 about here

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were analyzed in a (3) group x (2) locus of control x (2) pre-post test times repeated measures ANOVA. Table 2 presents these results.

Table 2 about here

As Table 1 indicates, Group 2 individuals represent our high intrinsic motivation group (highest pre-test times at target activity). Of primary interest then is a comparison of Hi and Lo locus of control mean times for our high intrinsic motivation subjects. A Scheffe contrast comparing post-test

mean times for Hi and Lo locus of control cognitive group 2 individuals was significant ($F_{2,24} = 21.38$, $p<.001$). Post-test differences were also observed between Hi and Lo locus of control cognitive group 1 individuals ($F_{2,24} = 17.22$, $p<.001$). No other pre or post test times were significantly different for hi and Lo locus of control individuals.

Conclusion

As predicted, the introduction of locus of control as an individual difference measure may help explain the differential findings obtained with verbal praise treatment conditions. With as gross a measure as median split into Hi and Lo levels of internality, significant differences in predicted directions were obtained. For those subjects who were higher on internal locus of control it was found that verbal praise acted to increase intrinsic motivation, while for individuals lower on locus of control, verbal praise appeared to decrease intrinsic motivation. Thus, individual differences in locus of control orientation have been shown to be of use in determining when positive feedback or social reinforcement will serve to increase feelings of competence and hence intrinsic motivation. For those individuals with an external locus of control orientation, it appears that verbal praise given in support of individual performance on intrinsically motivated tasks may actually reduce intrinsic motivation when that praise is no longer forthcoming. Further investigation of individual differences and social determinants mediating the interaction between intrinsic and extrinsic forces in motivation is clearly called for.

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Table 1

Mean Time Spent at Cognitive Learning Activity

	Group 1		Group 2		Group 3	
	Pre	Post*	Pre	Post*	Pre	Post
HI LC	33.00 (48.12)	316.50 (121.92)	456.00 (69.97)	519.60 (117.92)	221.00 (85.64)	249.00 (85.20)
Lo LC	36.00 (49.33)	108.00 (77.86)	494.40 (36.64)	292.00 (29.34)	172.50 (44.73)	253.00 (42.69)

Note.

Times represent portion spent at target activity out of 600 second free choice time total.

*Mean differences for locus of control $p < .01$

Table 2

Analysis of Variance for Group X Locus of Control X Pre-Post Times

Source	df	MS	F
Between Subjects			
Locus of Control (L)	1	81076.30	10.99*
Group (G)	2	511119.00	69.31**
L*G	2	8586.94	1.16
Error	24	7374.09	
Within Subjects			
Occasion (R)	1	42873.80	14.16*
R*L	1	76009.00	25.10**
R*G	2	74290.30	24.53**
R*L*G	2	33428.80	11.04*
Error	24	3028.6	

Note.

Box's (1954) correction for heterogeneity of variance employed

*p <.01

**p <.001

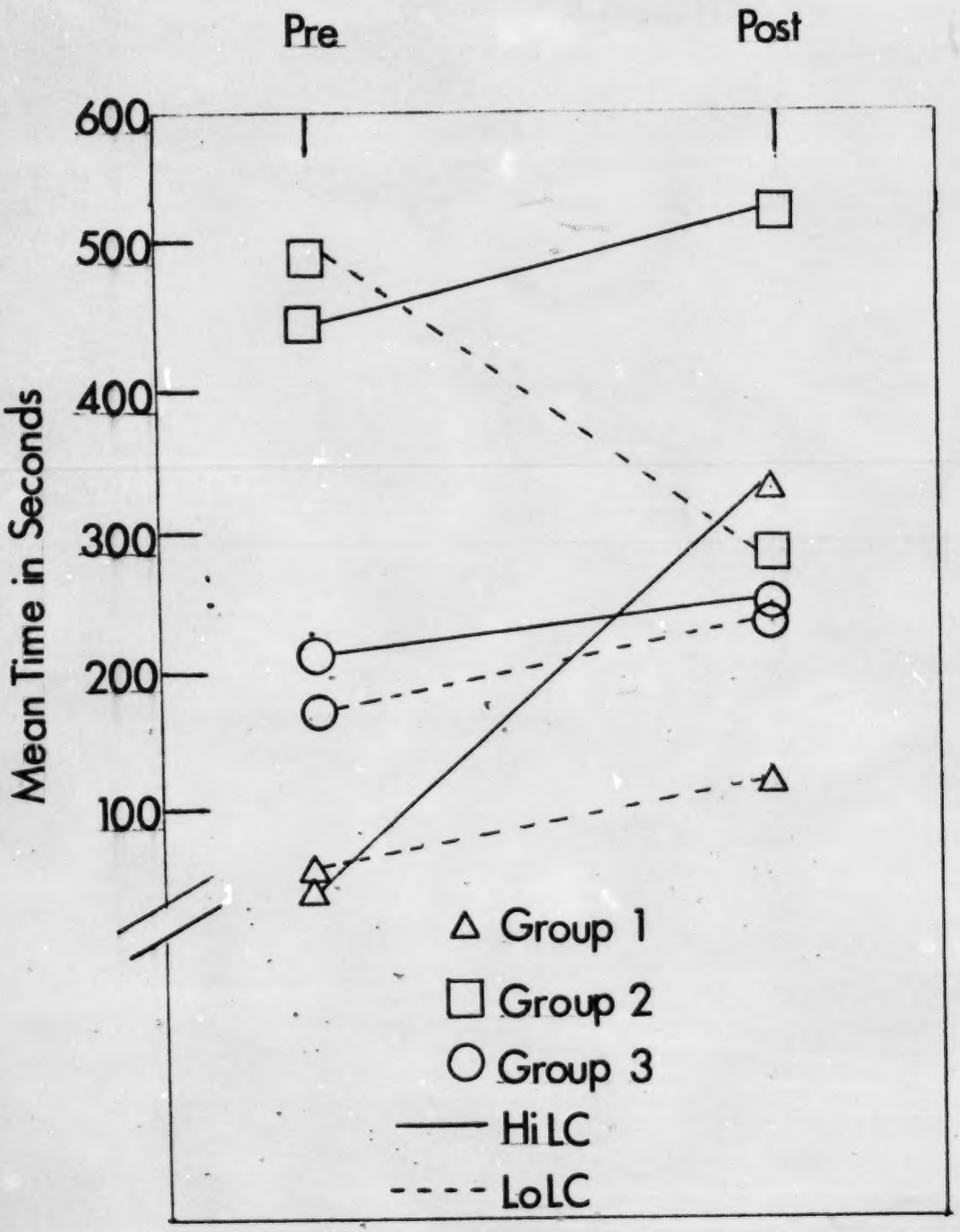

Figure 1. Pre and post-test times spent at target activity by Hi & Lo locus of control subjects in each developmental group.